

a data storage device having a unique identifier, an audio data file and a decoder file stored therein, a method for processing the audio data file, the method comprising the steps of:

identifying first and second keys stored in a memory of the micro-controller in response to the decryption program;

retrieving the audio data file and the decoder file from the data storage device in response to a user selection of the audio data file;

decrypting the decoder file in response to the first key and the decryption program;

generating a third key in response to the second key and the unique identifier; decrypting the audio data file in response to the third key and the decryption program;

decoding the decrypted audio data file in response to the decrypted decoder file; and

providing the decrypted, decoded audio data file to an output device.

2. The method of claim 1, wherein the steps of identifying the first key and identifying the second key comprise identifying a first memory location having the first key stored therein and identifying a second memory location having the second key stored therein.

3. The method of claim 2, wherein the data storage device is a solid state memory device.

4. The method of claim 3, wherein the data storage device is a compactflash™ memory card.

5. The method of claim 1, wherein the data storage device includes a plurality of audio data files and decoder files stored therein, each one of the plurality of audio data files being associated with a selected one of the decoder files, the retrieving step comprising identifying a selected decoder file associated with the audio data files and retrieving the audio data file and the selected decoder file in response to the user selection.

6. A portable audio data processing apparatus, comprising:
 - user input means for receiving user inputs;
 - data input means for receiving digital data;
 - a data storage device having an audio data file, a decoder file and a unique identifier stored therein, the data storage device adapted to be removably coupled to the data input means;
 - a digital signal processor; and
 - a micro-controller coupled to the user input means, data input means, and digital signal processor, the micro-controller transferring a decryption program and a key file to the digital signal processor in response to the data storage device being coupled to the data input means, the digital signal processor identifying first and second keys stored in a memory of the micro-controller in response to the decryption program, the micro-controller transferring the audio data file, the decoder file and the unique identifier from the data storage device to the digital signal processor in response to user selection of the audio data file, the digital signal processor decrypting the decoder file in response to the first key and the decryption program, the digital signal processor decrypting the audio data file in response to the second key, the unique identifier and the decryption program, the digital signal processor decoding the decrypted audio data file in response to the decoder file.
7. The apparatus according to claim 6, wherein the digital signal processor identifies the first and second keys by identifying first and second locations having the first and second keys stored therein.
8. The apparatus according to claim 6, wherein the data storage device comprises a solid state memory device.
9. The apparatus according to claim 6, wherein the data storage device comprises a compactflash™ memory card.
10. The apparatus according to claim 6, wherein the data storage device includes a plurality of audio data files and decoder files stored therein, each one of the plurality of audio data files being associated with a selected one of the decoder files, the micro-controller transferring a selected one of the plurality of audio data

files and an associated decoder file to the digital signal processor in response to a user selection.

11. A compact memory device for storing digital data, the memory device adapted to be coupled to a handheld audio playback device, the memory device comprising:

- a plurality of memory cells, the memory cells having stored therein:

- a unique identifier associated with the compact memory device;

- an audio data file having audio data encoded in accordance with a selected one of a plurality of encoding formats and encrypted using a first key stored in a micro-controller of the playback device;

- a decoder file associated with the selected one of a plurality of encoding formats, the decoder file encrypted using the unique identifier and a second key stored in the micro-controller of the playback device, the decoder file being adapted to be transferred to a digital signal processor for causing the digital signal processor to decode the audio data file in accordance with the selected one of a plurality of encoding formats; and

- an identifier data file for identifying the correspondence between the audio data file and the associated decoder file.

IN THE ABSTRACT:

Please add the following Abstract.

-- An apparatus and a method for processing encoded digital audio data, wherein the digital audio data is encoded using one of a plurality of encoding formats. The present invention prevents encoded digital audio data that has been copied onto a particular type of data storage medium having a unique identifier, such as a compactflash memory card, from another one of the particular type of data storage medium from being playable in an audio playback device according to the present invention. In accordance with the present invention, an encoded audio data file is encrypted using a unique identifier associated with the data storage device and a second key, an associated decoder file is encrypted using a first key, and the encrypted data and decoder files are stored onto the data storage device. During playback, a digital signal processor decrypt the audio data file in response to the